

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al. (US Patent 6,929,836) in view of Stibal et al. (US Patent 5,656,719).

1. Claims 2-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al. (US Patent 6,929,836) in view of Stibal et al. (US Patent 5,656,719). Kikuchi et al. teaches a method of compression molding a preform by extruding a polyester composite molten resin (26), cutting the resin into portions, transporting the resulting molten resin lump (27) to a compression molding device (28, 29) and compression molding to form a multilayered preform (1), which is later stretch blow molded into a bottle (10) (column 8, lines 6-21). Regarding claims 2-5 and 7, Kikuchi et al. does not teach that the process is a continuous one by forming polyester polymer by melt phase polymerization and then continuously filling the compression molds. Stibal et al. teaches a method of making bottle preforms by continuously flowing a melt of polyethylene terephthalate or its copolyesters from a post-condensation reactor (3) into a molding tool, which may be for injection molding (7), fiber-spinning (column 6, lines 38-41), or extruder (column 6, lines 56-60). It would have been obvious to a person of

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ordinary skill in the art to use the continuous flow as taught by Stibal et al. to modify the method taught by Kikuchi et al., in order to form a finished product with a lower acetaldehyde content, as taught by Stibal et al. (column 3, lines 25-45).

Regarding claim 6, Kikuchi et al. does not specifically teach filling and capping the bottles. It is generally well known in the art to immediately form a bottle from a preform. It would have been obvious to a person of ordinary skill in the art to use well known molding methods, such as immediately forming the bottle from a preform, to modify the method taught by Kikuchi et al. in order to continuously form the bottles. Such a process would save time and money, by avoiding reheating of the preforms.

Response to Arguments

2. Applicant's arguments filed 10/13/09 have been fully considered but they are not persuasive.

Applicant argues on page 4 of the remarks that the examiner was mistaken in the advisory action mailed on 8/11/2009 in regards to a skilled artisan being motivated to combine references of Kikuchi and Stibal because there is nothing in the disclosure of Kikuchi which indicates that the acetaldehyde content of Kikuchi is as high as the prior art processes, and therefore there is not necessarily a requirement for the solution provided by Stibal. Applicant further states that there is "insufficient data to conclude that Kikuchi's compression molding process would result in unacceptably high acetaldehyde values that would merit making significant changes to the manufacturing

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process.” The examiner agrees with Applicant’s statement that Kikuchi does not provide any information which would expressly disclose what the acetaldehyde concentration in the resin is. However, the examiner respectfully submits that Applicant has misunderstood the rejection. The motivation to combine the references was not based on the need to reduce the acetaldehyde content of Kikuchi below some predetermined acceptable values, but to simply *minimize* the presence of acetaldehyde no matter what the levels are in Kikuchi. Kikuchi discloses that the parisons are made by melting the resin in an extruder and the shaping with compression molding (Column 8, lines 1-18). Stibal discloses that through the act of melting resin in an extruder, heat and shear create undesirable acetaldehyde byproducts (Column 2, lines 34-37). Stibal further suggests to one of ordinary skill in the art that acetaldehydes should be minimized (Column 3, line 39) because they contaminate the food (Column 1, lines 32-35). One of ordinary skill would therefore expect the process of Kikuchi to be forming acetaldehydes at least in the melting step and would appreciate that by eliminating these unnecessary acetaldehydes with the modifications disclosed by Stibal, a higher quality product can be made.

Though not relied upon in the rejection above, the examiner notes that Stibal also discloses that one of ordinary skill in the art at the time of the invention would have recognized that in-line processes have the benefit of increased energy efficiency due to elimination of a remelting step (Column 1, lines 58-60) and a reduction in transportation costs (Column 2, lines 13-15), which are identical to the advantages recognized by Applicant in the specification of the present application.

Applicant argues on page 4 of the remarks that Stibal teaches away from the rejection by showing that numerous factors contribute to the final acetaldehyde content. It is the examiner's position that the precise acetaldehyde content in the resin of Kikuchi is irrelevant for the reasoning given above (namely that the motivation to combine Stibal with Kikuchi is to minimize the acetaldehyde content, not reduce it below some threshold value).

Applicant argues on page 4 of the remarks that one of ordinary skill would not have concluded that Stibal's modification would reduce the acetaldehyde content for Kikuchi's compression molding. It is the examiner's position that one of ordinary skill would appreciate that the process of Kikuchi produces unnecessary acetalddehydes for the reasons given above (namely that Kikuchi includes a step of melting the resin in the extruder, which Stibal discloses as being one of the prior art process steps which creates unnecessary acetalddehydes).

On page 5 of the remarks, Applicant argues that Stibal is concerned with overcoming the acetaldehyde problems associated with resin being melted in injection molding extruders. It is the examiner's position that one of ordinary skill would appreciate that the process of Kikuchi produces unnecessary acetalddehydes for the reasons given above (namely that Kikuchi includes a step of melting the resin in the

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extruder, which Stibal discloses as being one of the prior art process steps which creates unnecessary acetaldehydes).

On page 6 of the remarks, Applicant argues that the many examples and tables presented by Stibal provide evidence that the acetaldehyde content in the container is the result of several variables which all need to be taken into account. Applicant states that "these examples illustrate the need to compare and control each of these parameters to achieve acceptable acetaldehyde values." It is the examiner's position that the precise acetaldehyde content in the resin of Kikuchi is irrelevant for the reasoning given above (namely that the motivation to combine Stibal with Kikuchi is to minimize the acetaldehyde content, not reduce below some threshold value). The examiner notes that in the process of Stibal, it is stated that Coca Cola Company has set the upper limit of acetaldehyde to be 3 μ l and that in certain embodiments, Stibal is concerned with achieving this upper value. However, Kikuchi suggests to one of ordinary skill in the art that a wide variety of products can be stored in the containers, not just soft drinks (Column 1, lines 29-34). Also, Stibal suggests to one of ordinary skill in the art that the acetaldehyde should be minimized (Column 3, line 39) (Column 1, lines 32-35). Therefore, one of ordinary skill in the art would appreciate that by eliminating unnecessary acetaldehyde from the containers of Kikuchi, the quality of the product is being increased, regardless of what the final acetaldehyde content ends up being.

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Applicant argues on page 7 of the remarks Applicant argues that examples 1-21 of Stibal show that numerous factors effect the acetaldehyde content and that these factors or not spelled out in the compression molding process of Kikuchi. The examiner does not find these arguments persuasive for the reasons presented above (namely that the exact concentration of acetaldehyde in the product of Kikuchi does not need to be known for the benefits of reducing it to be recognized).

On page 7 of the remarks Applicant argues that "it is possible that Kikuchi's compression molding system, that allows the resin to remain in molten state after leaving the extruder, coupled with the initial i.v. of Kikuchi's resin, which is higher than that of Stibal's resins, could result in an inherently reduced acetaldehyde content compared to conventional injection molding systems." The examiner maintains that the exact concentration of acetaldehyde in the product of Kikuchi does not need to be known for one of ordinary skill in the art to be motivated to reduce it for the reasons presented above.

Applicant argues on page 8 that there is no motivation to combine the references of Kikuchi and Stibal when it is unknown whether or not the acetaldehyde content of Kikuchi's bottles are unacceptable. The examiner find's this unpersuasive for the reasons presented above (namely that the original rejection did not rely on the need to reduce the acetaldehyde concentration below some threshold value, simply the knowledge that acetaldehydes are undesirable).

Applicant argues on page 8 of the remarks that modifying the process of Kikuchi would not be simple because exchanging the compression mold of Kikuchi into the continuous process is not a simple matter of replacing one mold for the other. The examiner points out that the technical or engineering difficulty does not weigh against the obviousness of the claimed invention. The examiner also would like to point out that one of ordinary skill has a strong motivation to perform any required modifications for the reasoning presented in the above rejections. Finally, the examiner notes that Applicant appears to be arguing that there is no bodily incorporation of the devices of Stibal into the process of Kikuchi. In response to applicant's argument that exchanging the compression mold of Kikuchi into the continuous in-line process is not a simple matter of replacing one mold for the other, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

This is a request for continued examination of applicant's earlier Application No. 10634707. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office

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action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARTIN ROGERS whose telephone number is 571-270-7002. The examiner can normally be reached on Monday through Thursday, 7:30 to 5:00, and every other Friday, 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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MR

/Richard Crispino/
Supervisory Patent Examiner, Art Unit 1791